



Washington DC Automated Disease Surveillance System (WADSS)



DC Department of Health



Development of the Washington, DC Automated Disease Surveillance System (WADSS)

May 26, 2004





Washington DC Automated Disease Surveillance System (WADSS)

*Disease Surveillance and
Bioterrorism Response*

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***Public Health is receiving recognition as
a critical component of frontline response.***





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The WADSS Purpose

To provide epidemiologists and investigators with the ability to collect and analyze real-time disparate data from external sources outside of the Department of Health by integrating all routine disease and bioterrorism surveillance processes within a secure automated environment.

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Surveillance and Response before WADSS

- **A Vulnerable Siloed Data Management Infrastructure**
- **A Lack of a Decentralized Integrated Epidemiological/Surveillance Unit**
- **Cumbersome and Antiquated Business Processes**
- **A Lack of Real-Time Access to Clinical Updates**
- **Fragmented Communications Networks**
- **Incomplete “All Hazards” Planning and Response Capacities**



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Reinventing Public Health Infrastructure

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***“NEDSS is a multi-organizational business
and technical architecture.”***

Dr. Julie Gerberding, Director, Centers for Disease Control and Prevention

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The WADSS Development Starting Point

Sierra Systems Group Inc.

- **NEDSS Readiness Assessments**
 - ✓ **DOH and its Traditional Surveillance Partners**
- **Requirements Definition and Solution Analysis**
- **Establishment of Trusted Broker Agreements**
 - ✓ **Traditional and Non-Traditional Data Sources**
- **WADSS Conceptual Design and Project Planning**



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WADSS System Application Development



Atlantic Management Center, Inc.

- **Facilitated Joint Application Design (JAD) Sessions with DOH Staff**
- **Developed and Built the Application**
- **Integrated Non-traditional and Traditional Sources Into System**
- **Provides Continued Application and Development Support**

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Overall WADSS Objectives

- **Improved Disease Surveillance Processes**
- **Enhanced Clinical Data Integration**
- **Early Detection of Public Health Emergencies**
- **Inclusion of Non-Traditional Data Sources**

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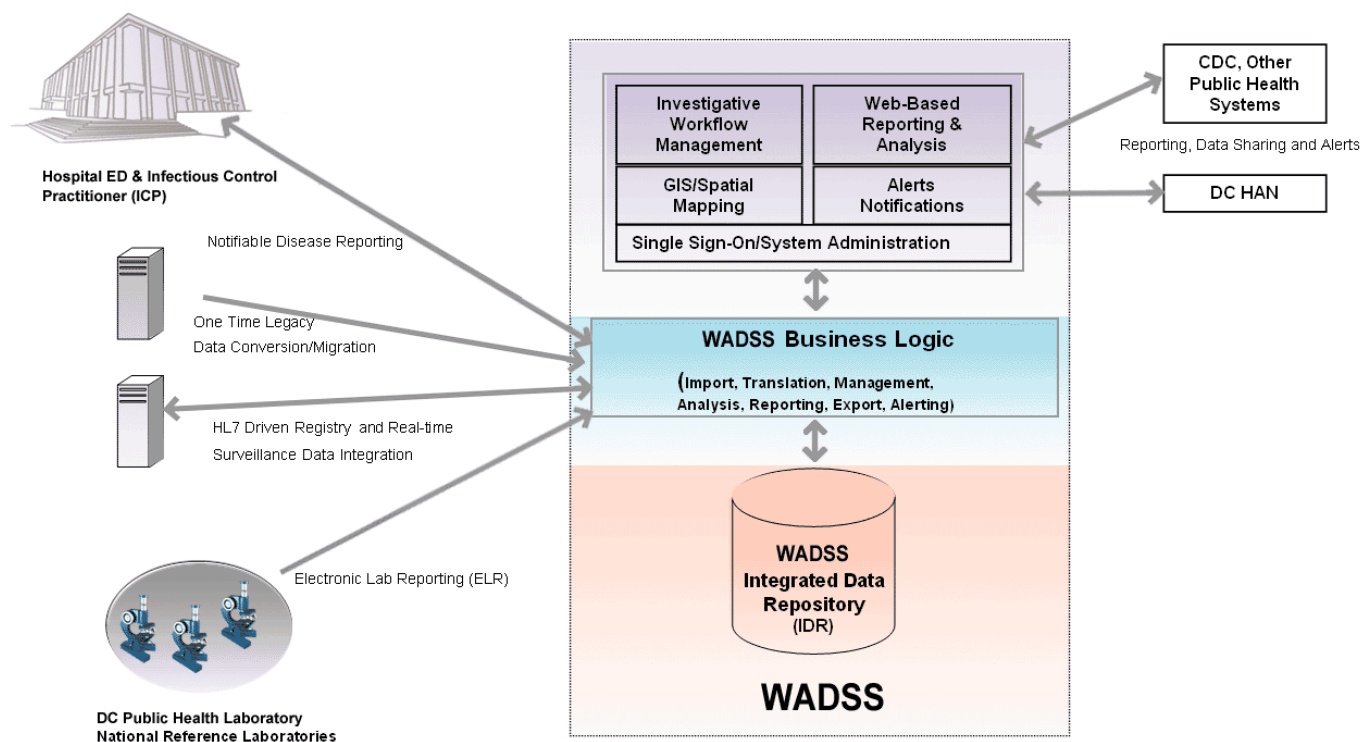
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The Solution Context

WADSS Solution Context



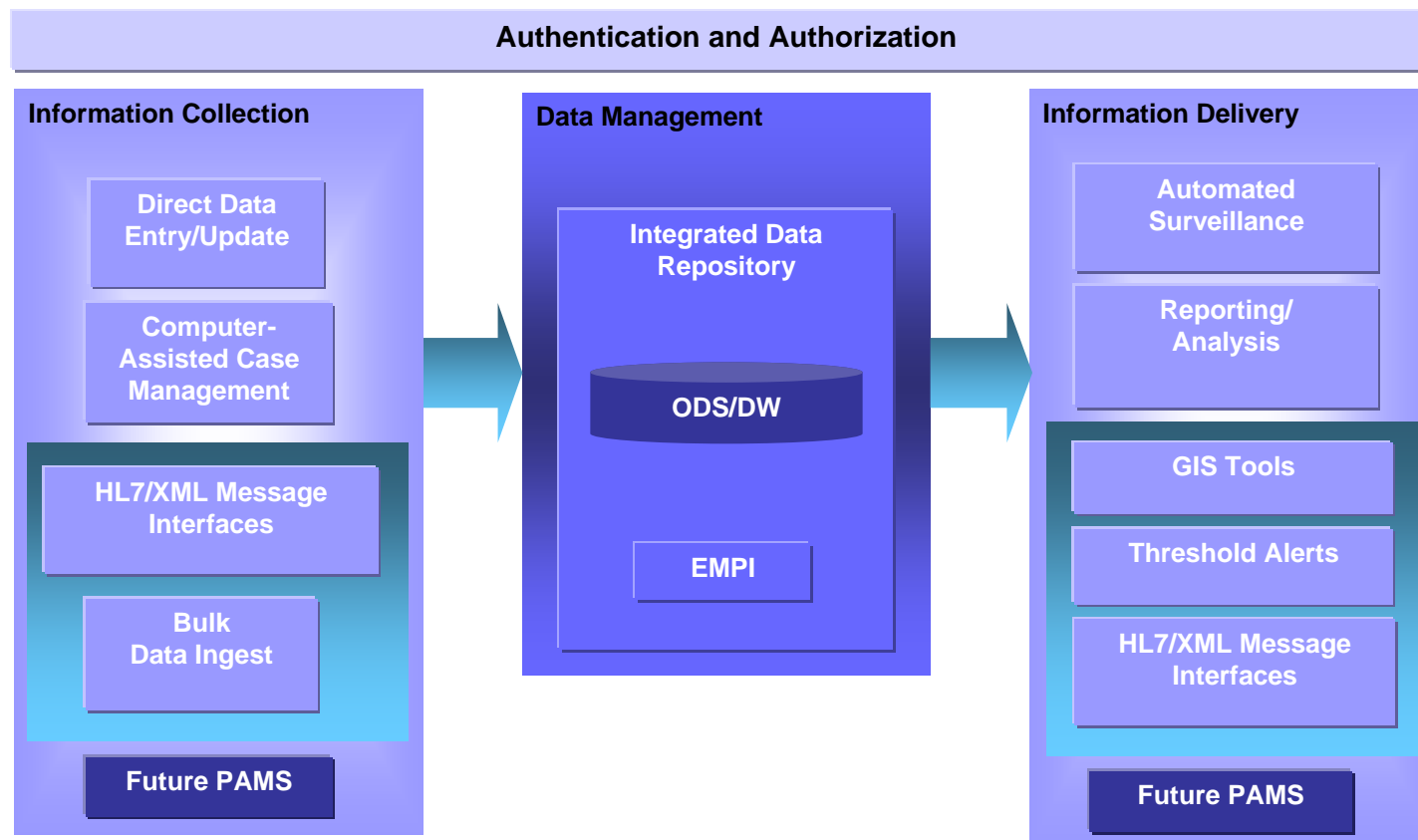


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The Functional WADSS Components



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District of Columbia Department of Health

Atlantic Management Center, Inc.

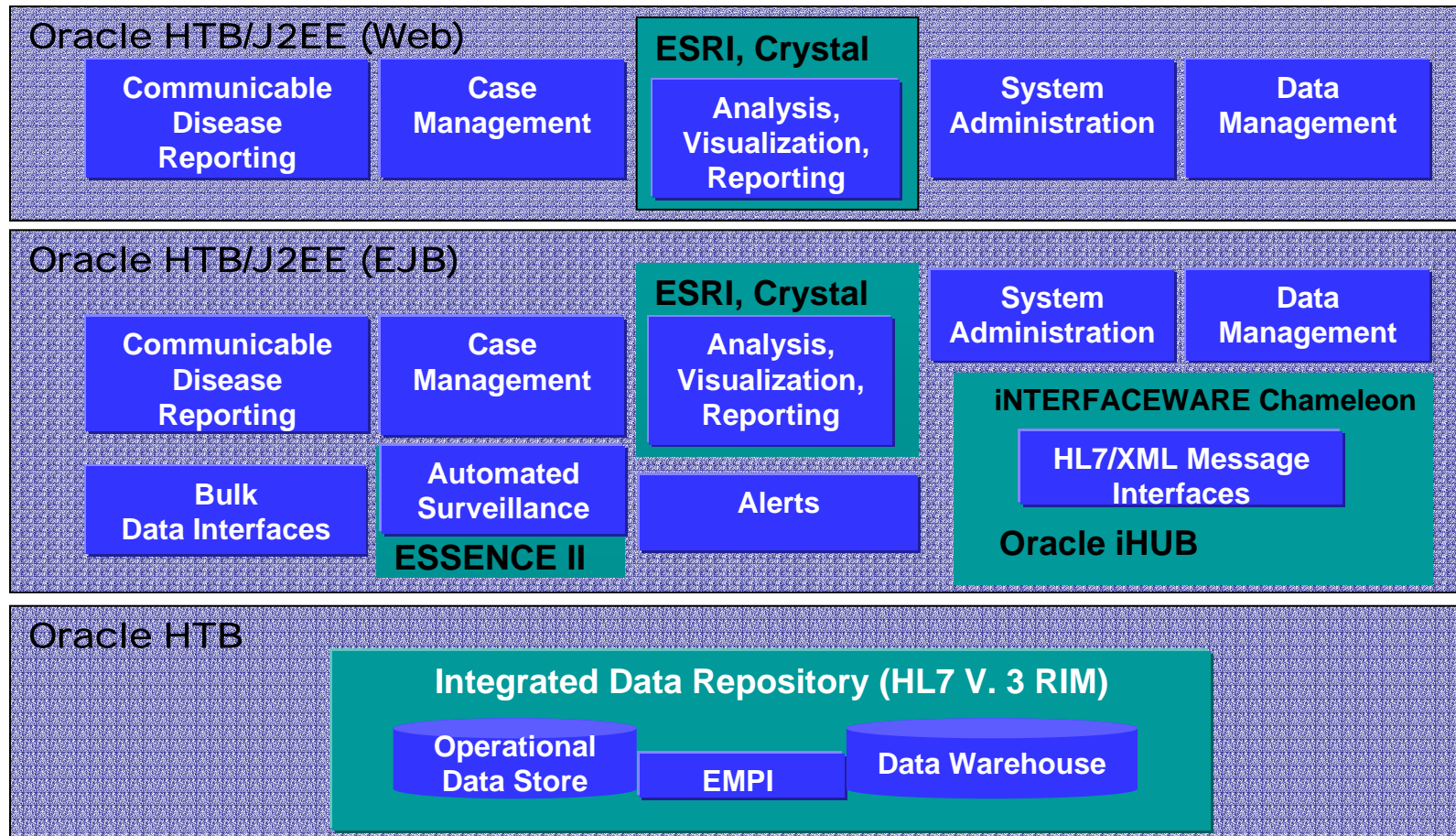


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The WADSS Components



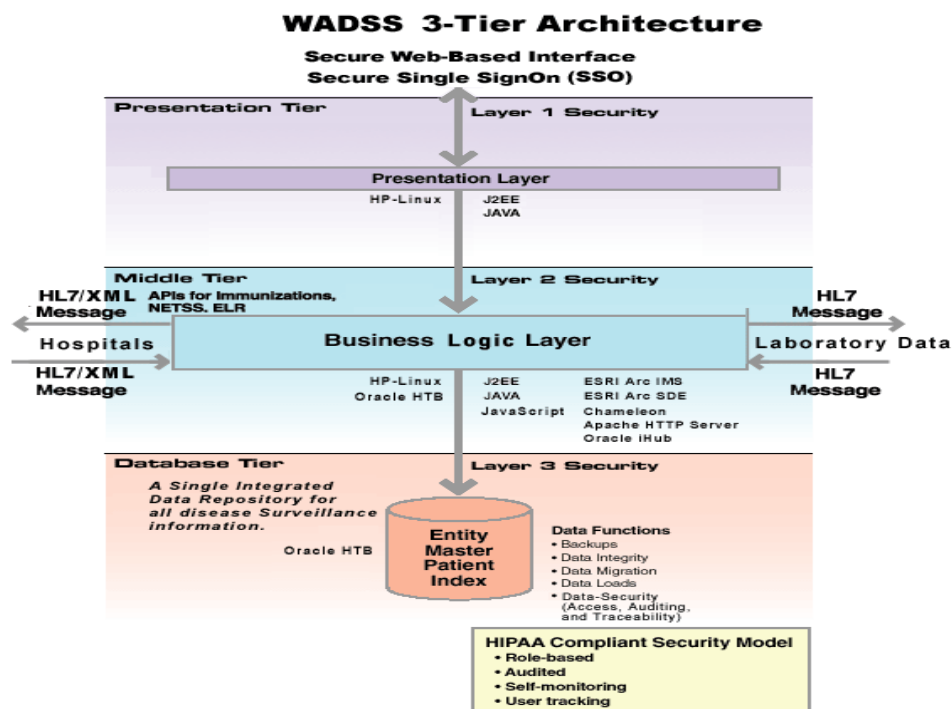


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The WADSS 3-Tier Architecture



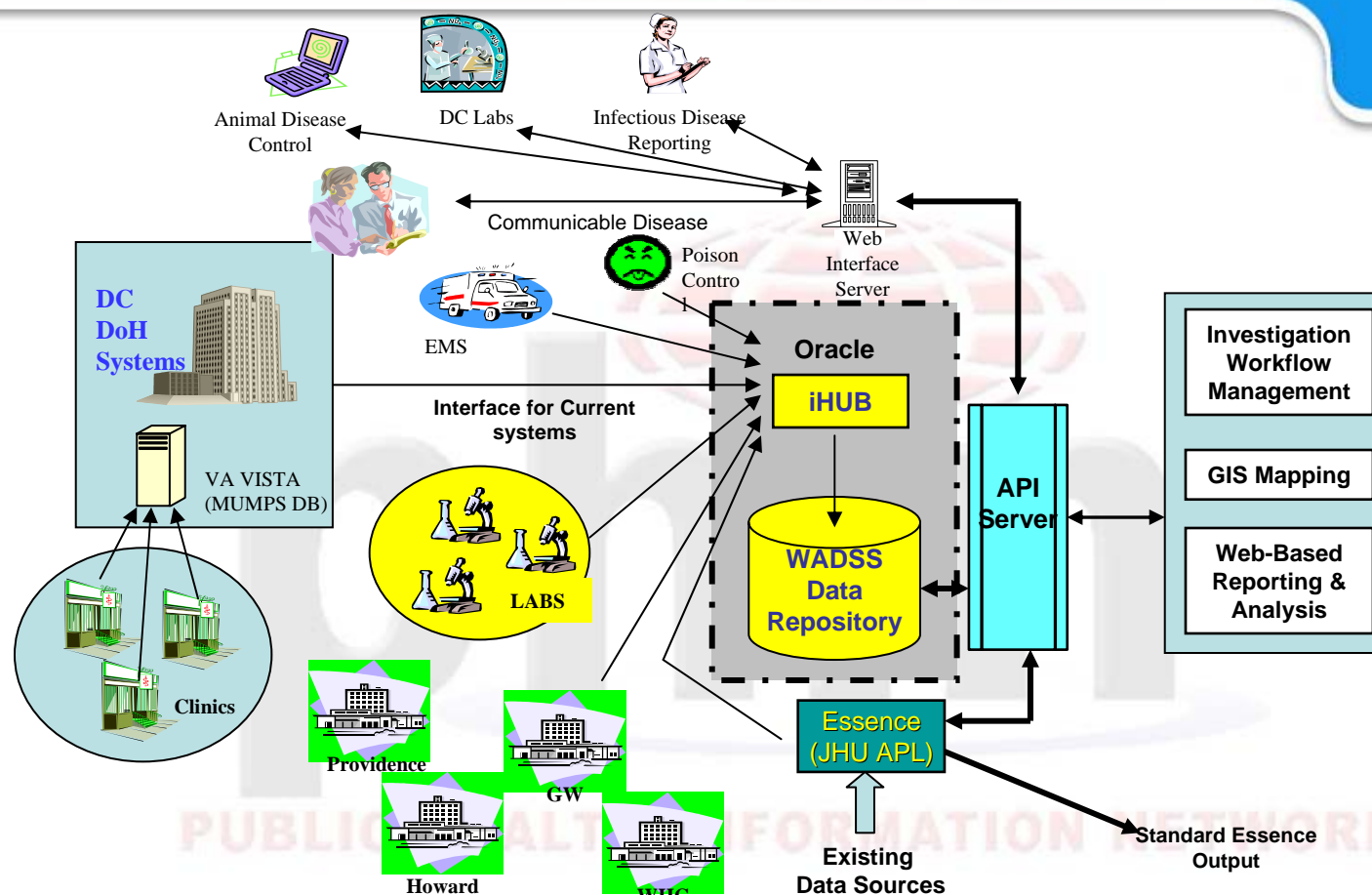


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The WADSS Architecture



Sierra Systems Group, Inc.

District of Columbia Department of Health

Atlantic Management Center, Inc.



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Joint Application Development Sessions (JAD)



Sierra Systems Group, Inc.

District of Columbia Department of Health

Atlantic Management Center, Inc.



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WADSS Phase 1

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- **Real-time disease data capture from four pilot hospitals, DC Fire and EMS, and National Poison Control Center.**
- **Near real-time (every 5 minutes) capture of lab test from LabCorp of America.**
- **Incorporation of JHUAPL ESSENCE II for access to regional surveillance data including over the counter pharmaceutical sales, school absenteeism, animal health.**

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WADSS Phase 1 Results: A New Paradigm

- **A Dual-Use Surveillance and Response Platform**
- **Scalable Integrated Data Management Architecture**
- **Real-Time Rules-Based Healthcare Intelligence**
- **Improved Opportunities for Collaboration**
- **Heightened Incident Response Capabilities**

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WADSS Phase 2

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➤ **Further Source Data Integration**

- ✓ **EDs/Labs/ICPs in the Remaining District Hospitals**
- ✓ **NETSS and Hepatitis Registry as PAMs**
- ✓ **Environmental Health Indicators**
- ✓ **Statistical Data Related to Mortality and Morbidity**
- ✓ **Lab Test Data from the District's Public Health Laboratory**
- ✓ **Select Community-Based Clinics**

➤ **Electronic Linkage to the DC Health Alert Network (HAN)**



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